

# Tradeoffs Between Quantity and Quality of China's Rice

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**Highlights:** Although rice sown area in China has declined to 28.2 million hectares in 2001/02, rice exports are expected to reach 2 million tons. China eliminated procurement prices for early rice in southern provinces effective 2000. Per capita consumption of rice continues to decline with income growth, especially in the eastern coastal cities. Consumers are becoming more aware of quality differences among varieties and prefer japonica rice.

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Starting with the 2000 rice crop, China's government eliminated its price support program for early season rice, which mainly consists of low-quality *indica* rice grown south of the Yangtze River.<sup>2</sup> Total rice production is estimated to have decreased by about 5.3 percent in 2000/01 because of abolished official procurement prices and drought conditions in northern China. Total sown area of early rice is estimated to have declined 10 percent in 2000/01 compared with 1999/00. Due to the impact of previous grain-support policy changes, early rice area in 2001/02 is expected to drop again to an estimated 6.1 million hectares, down 10 percent from 2000/01.<sup>3</sup>

Paddy rice output for 2001/02 is forecast at 181 million tons, slightly lower than 2000/01 crops (table F-1). Single-crop midseason rice, which accounted for more than 55 percent of China's total rice production, has been decreased from an estimated 109 million tons (rough basis) in 2000/01 to 103 million tons in 2001/02. The estimated ending stocks stay high at 84.6 million tons, milled basis. To reduce costs associated

with its onerous rice inventory, China exported an estimated 1.8 million tons of milled rice to neighboring countries in 2000/01. Hence, China remains one of the largest rice exporters behind Thailand (6.7 million tons), Vietnam (4 million tons), and the United States (2.6 million tons).

## *Phasing Out Low-Quality Early Rice by Implementing New Grain Quality Standards*

In the 1990s, early rice (mostly *indica*) accounted for 25 percent of total rice sown area, or about 10 percent of China's annual total grain production of nearly 500 million tons. Early *indica* rice is not favored by Chinese consumers because of its mushy taste and the inability of its grains to stick together when lifted by chopsticks. Nevertheless, farmers have to produce *indica* rice to meet government annual grain production targets. Farmers usually put the rice in storage if alternative starchy food is available. After the grain has been stored for several years, its quality deteriorates to the point where it is unfit for human consumption, and it is then sold to local feed mills for animal feed.

Until 1999, the Chinese government supported rice prices and made little distinction between *indica* and *japonica* varieties. Farmers were given no incentives to correspond with the market, where low-quality early *indica* rice commands a lower retail price. As a result, *indica* rice inventories accumulated, becoming a financial burden for farmers and government. Because the government eliminated procurement prices in southern

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<sup>2</sup> At the same time, the Chinese government also eliminated support prices for low-quality spring wheat in northeastern provinces and winter wheat in southern provinces.

<sup>3</sup> China's National Grain and Oils Information Center, Beijing, September 2001.

**Table F-1—China's rice production, trade, and stocks, crop year August-July**

Rice	1997/98	1998/99	1999/00	2000/01	2001/02
	<i>Million tons</i>				
Production (paddy)	200.7	198.7	198.5	187.9	181.0
Production (milled)	140.5	139.1	138.9	131.5	126.7
Imports (milled)	0.3	0.2	0.3	0.3	0.3
Exports (milled)	3.7	2.7	3.0	1.8	2.0
Stocks (milled)	93.0	96.0	98.5	94.2	84.6

Source: USDA forecasts as of October 12, 2001.

China's early rice areas effective for 2000 crops, the southern provinces of Hunan, Hubei, Anhui, and Jiangxi formed an interprovincial rice alliance (cartel) to maintain some protection prices for local producers.

Farmers now understand that quality products bring a premium price. However, "quality" in China is open to various interpretations, including sanitary standards, processing methods, nutritional value, and taste. The government released a new set of standards for so-called quality rice in 1999, but rice producers have tended to interpret the standards differently. Some producers thought that organic rice (i.e., "green food" in Chinese terminology) was quality rice. Others thought that processed black rice with a special flavor was a quality rice product. Some believed that quality could be achieved by adding vitamins and minerals to milled rice to enhance nutritional value, or by simply using advanced milling equipment.

China's government provides five standard grade levels for indica and japonica paddy rice (rough basis). Standard grades of indica rice have 50 percent whole kernel rice with milling rates ranging from 71 to 79 percent, while japonica rice has 60 percent whole kernel rice with milling rates ranging from 73 to 81 percent. In 2000, the government provided three new premium grade (high-quality) standards under which more scientific-based criteria must be met, including percentage of whiteheads, imperfect grains, three classes of flavor, and higher whole-kernel counts of 50 to 56 percent for indica rice, and 60 to 66 percent for japonica rice. To local officials, quality rice would come from certified breeding varieties grown in large fields with homogeneous output. Small-plot producers would not be able to meet this criterion if they did not act collectively at the village level to deliver a significant quantity with quality product characteristics of homogeneity. Local grain procurement stations provide a 10-percent price markup for quality rice if it meets certification requirements.

Beyond state or national standards on paddy rice, China has so-called industry standards that could be more pragmatically adopted for milled rice. The Ministry of Agriculture established the industry standards in 1986 for rice used for milling and final food preparations. Most of these standards, however, are outdated because newly developed grains and rice varieties have appeared since the standards were issued. Major mills are now promoting registered brand names as a signal of fine quality. Registered brands tend to be local products, and no dominant national brands have emerged. Brand names are not popular in China because consumers are not yet able to relate them to specific characteristics. Similarly, consumers are not confident that mills can source the same rice from specific producing areas and maintain consistent quality.

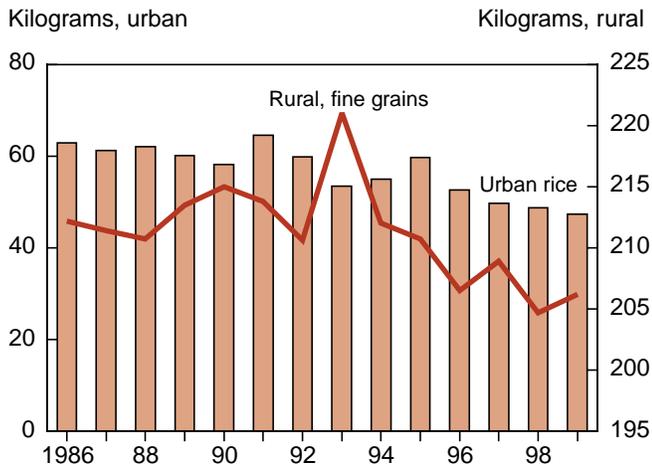
Per capita rice consumption is declining for both urban and rural residents (fig. F-1). Some researchers have identified rice as an inferior good in China—a good whose demand falls as consumer incomes rise. While the total quantity of rice may fall as consumer incomes rise, the demand for quality rice grows as consumers become wealthier, particularly from urban residents in coastal cities.

### ***Competing Vigorously Beyond Asian Markets***

Due to abundant supplies and the recovery of overseas markets from the Asian financial crisis, China exported nearly 3 million tons of rice in calendar year 2000 and was the world's third-largest rice exporter (table F-2). In calendar year 2000, China experienced growth in both rice exports (9 percent) and imports (41 percent), compared with 1999. Most of China's rice exports were indica varieties from the Yangtze River region, including Jiangxi, Anhui, Hunan, and Jiangsu provinces. Most japonica rice was exported from the northeastern provinces, including Liaoning,

Figure F-1

**Per capita purchases of rice for urban residents and fine grains for rural residents**



Source: China's National Bureau of Statistics, urban and rural household surveys, various years.

Heilongjiang, and Jilin. In the northeastern provinces, a number of joint-venture farms with investors from Japan and Korea have been producing rice for the export markets.

China's rice exports have diversified in recent years. China has exported increasing quantities of rice to

countries outside of eastern Asia, including Cote d'Ivoire, Cuba, Russia, Iraq, and Guinea. In 1999, rice exports to neighboring Asian countries were 1.2 million tons, with Indonesia the biggest buyer at 734,000 tons. China also exported 161,000 tons of rice to Russia and 604,000 tons of rice to Middle Eastern and African countries. In 2000, Cote d'Ivoire imported 870,000 tons of rice and was China's largest rice export market.

Southern coastal provinces, particularly Guangdong and Hainan, are major rice importers because of their strategic locations and the convenience of transportation systems. Thailand has been the dominant supplier of rice, exporting 238,000 tons of quality fragrant jasmine rice to China in 2000 and accounting for over 99 percent of China's rice imports.

***China's WTO Accession Will Have Minor Impacts Domestically***

Based on the terms of the U.S.-China bilateral agricultural agreement on accession to the World Trade Organization (WTO), China's WTO entry will have a minimal impact on its rice production. In fact, rice is the only agricultural commodity for which China could remain as a net exporter; China's rice exports

**Table F-2—China's rice exports and imports by country, calendar year, 1997-2000**

Country	1997	1998	1999	2000	4-year average	4-year shares
	-----1,000 tons -----				Percent	
<b>Exports:</b>						
Philippines	184.4	1,374.7	180.6	64.4	451.0	17.5
Indonesia	9.8	1,362.6	734.2	541.9	662.1	25.6
North Korea	91.8	77.9	86.3	52.7	77.2	3.0
South Korea	13.9	74.6	115.8	131.0	83.9	3.2
Japan	36.3	81.2	75.6	66.4	64.9	2.5
Iraq	124.0	98.7	102.9	169.5	123.8	4.8
Cote d'Ivoire	100.0	179.9	421.1	869.6	392.7	15.2
Cuba	84.6	145.4	226.9	225.5	170.6	6.6
Others	294.3	350.4	759.9	827.0	557.9	21.6
Total	939.3	3,745.4	2,703.2	2,948.1	2,584.0	100.0
<b>Imports:</b>						
Thailand	323.2	242.5	167.6	238.0	242.8	99.4
United States	1.2	0.5	0.6	0.4	0.7	0.3
Myanmar	1.0	0.0	0.0	0.0	0.2	0.1
Others	0.8	0.8	0.1	0.2	0.4	0.2
Total	326.2	243.8	168.3	238.6	244.2	100.0

Source: China Customs statistics.

may even increase following WTO accession.<sup>4</sup> According to the agreement, China will implement a tariff-rate quota (TRQ) system with an annual import quota of 2.7 million tons of rice in the initial year that would gradually rise to 5.3 million tons over 9 years. The quota would be split equally between indica and japonica rice. For japonica rice, private rice traders (nonstate-owned business entities) will have a 50-percent share of the quota immediately upon accession. For indica rice, however, state trading enterprises will control 90 percent of the imports.

The TRQs do not represent minimum purchase commitments. If imports reached the full TRQ level, they would still be a small share of China's domestic rice market, where annual rice production ranges from 130 to 140 million tons annually (milled basis). Imports are likely to be premium grade quality rice from the United States, Thailand, Vietnam, India, and Brazil. The United States would have a competitive advantage in selling high-quality long- and medium-grain rice to China.

Although China's rice imports under the WTO agreement could have minimal impact on the Chinese market because of its huge consumption base, the impact on the world rice market would be more substantial. The world annual export volume of rice averages 15 million tons, which is only about 8 percent of China's annual consumption. In this thin market, minor changes in the China market can have important repercussions. China's future rice imports could account for 20-30 percent of world trade and

<sup>4</sup> Using the USDA 1999 baseline, ERS estimates that China's net annual average rice exports will increase by \$15 million between 2000 and 2009 due to the country's accession to WTO.

could raise world market prices, especially for premium quality rice.

On the other hand, China could become a major rice exporter as domestic surplus stocks continue to rise and if world prices are higher than domestic prices. For example, China's rice exports accounted for 13 percent of the minimum commitment of rice imports for Japan and 99 percent of the minimum commitments for South Korea in 2000. China's chief competitors for these two markets are the United States and Australia.

China's competitiveness position in the world rice market could be weakened in the long run if rice producers can not overcome institutional and trade barriers. For example, the average rice farmer in China has less than 2 mu (i.e., 0.3 acre) of farmland and tends to keep 70 percent of rice output for on-farm uses. The remaining 30 percent of rice is eventually commercialized through state-owned grain companies or local private grain merchants. China has not been able to reach scale economies for rice production or enhanced efficiency of post-harvest marketing operations.

Another institutional barrier is the state-owned grain companies and enterprises. State grain enterprises have seen the growing price gaps between premium and lower grade rice and would use their monopolistic market power to block private merchants from entering the grain market. State grain enterprises may be inefficient in administering grain procurement and redistribution, but they have more operating capital than private merchants to buy and to store. Also, grain enterprises have the right to sign production and/or marketing contracts with local farmers for high-quality rice at any time. This situation has reduced, if not totally eliminated, opportunities for private traders.